

What is claimed is:

1. An electronically surveying apparatus, comprising:
 - 5 a storing portion for storing positional information of a surveying apparatus body and design data;
an angle-measuring portion for electronically measuring an angle between a reference direction and an aimed direction;
an arithmetic processing portion for obtaining a model of an
10 expected arrangement at completion of an object which is expected to be seen from the surveying apparatus body in the aimed direction by calculation, based on the angle measured by the angle-measuring portion and said design data; and
a displaying portion for displaying said model of the expected
15 arrangement at completion of the object.
2. The electronically surveying apparatus according to claim 1,
further comprising a telescope portion for viewing an object to be
measured which corresponds to said expected arrangement at
20 completion of the object, and an imaging portion for imaging the measurement object viewed by the telescope portion,
said aimed direction being a viewing direction, wherein
said displaying portion is capable of displaying the measurement
object imaged by said imaging portion as a real image of the
25 measurement object, and
said arithmetic processing portion displays said model of the
expected arrangement at completion of the object on the displaying

portion, directly or by overlapping said model of the expected arrangement at completion of the object with said real image.

3. An electronically surveying apparatus, comprising:

5 a telescope portion for viewing an object to be measured;

an imaging portion for imaging the measurement object viewed by the telescope portion;

a displaying portion capable of displaying the measurement object imaged by said imaging portion as a real image of the measurement
10 object;

a storing portion for storing design data which corresponds to said measurement object;

an angle-measuring portion for electronically measuring an angle between a reference direction and a viewing direction; and

15 an arithmetic processing portion for obtaining a model of an expected arrangement at completion of an object which is expected to be seen in the viewing direction by calculation, based on the angle measured by the angle-measuring portion and said design data, wherein

said model of the expected arrangement at completion of the object
20 is configured to be displayed on said displaying portion, directly or by being overlapped with said real image.

4. The electronically surveying apparatus according to claim 1, wherein said arithmetic processing portion displays said model of the
25 expected arrangement at completion of the object on the displaying portion based on detection of said angle-measuring portion according to a change in said aimed direction.

5. The electronically surveying apparatus according to claim 2, wherein said arithmetic processing portion displays said model of the expected arrangement at completion of the object on the displaying portion based on detection of said angle-measuring portion according to a change in said viewing direction.

6. The electronically surveying apparatus according to claim 1, wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on positional information of the surveying apparatus body including height thereof, the angle between the reference direction and the aimed direction which said angle-measuring portion has detected as a horizontal angle and a vertical angle, and said design data, and displays said calculated model of the expected arrangement at completion of the object on the displaying portion.

7. The electronically surveying apparatus according to claim 2, wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on positional information of the surveying apparatus body including height thereof, the angle between the reference direction and the viewing direction which said angle-measuring portion has detected as a horizontal angle and a vertical angle, and said design data, and displays said calculated model of the expected arrangement at completion of the object on the displaying portion.

8. The electronically surveying apparatus according to claim 1, further comprising a ranging portion for ranging a distance from the surveying apparatus body to said measurement object,

5 wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on the distance ranged by said ranging portion and said angle.

9. The electronically surveying apparatus according to claim 2, further comprising a ranging portion for ranging a distance from the
10 surveying apparatus body to said measurement object,

wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on the distance ranged by said ranging portion and said angle.

15 10. The electronically surveying apparatus according to claim 1, wherein said arithmetic processing portion zooms said model of the expected arrangement at completion of the object and displays the zoomed model of the expected arrangement at completion of the object on the displaying portion according to magnification.

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11. The electronically surveying apparatus according to claim 2, wherein said arithmetic processing portion zooms said model of the expected arrangement at completion of the object and displays the zoomed model of the expected arrangement at completion of the object on
25 the displaying portion according to magnification.

12. The electronically surveying apparatus according to claim 1,

wherein said arithmetic processing portion calculates an allowable range with respect to said model of the expected arrangement at completion of the object based on said design data, and displays the allowable range on said displaying portion by overlapping the allowable range with said model of the expected arrangement at completion of the object.

13. The electronically surveying apparatus according to claim 2, wherein said arithmetic processing portion calculates an allowable range with respect to said model of the expected arrangement at completion of the object based on said design data, and displays the allowable range on said displaying portion by overlapping the allowable range with said model of the expected arrangement at completion of the object.

14. The electronically surveying apparatus according to claim 3, wherein said arithmetic processing portion displays said model of the expected arrangement at completion of the object on the displaying portion based on detection of said angle-measuring portion according to a change in said viewing direction.

15. The electronically surveying apparatus according to claim 3, wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on positional information of a surveying apparatus body including height thereof, the angle between the reference direction and the viewing direction which said angle-measuring portion has detected as a horizontal angle and a

vertical angle, and said design data, and displays said calculated model of the expected arrangement at completion of the object on the displaying portion.

- 5 16. The electronically surveying apparatus according to claim 3, further comprising a ranging portion for ranging a distance to said measurement object,

wherein said arithmetic processing portion calculates said model of the expected arrangement at completion of the object based on the
10 distance ranged by said ranging portion and said angle.

17. The electronically surveying apparatus according to claim 3, wherein said arithmetic processing portion zooms said model of the expected arrangement at completion of the object and displays the
15 zoomed model of the expected arrangement at completion of the object on the displaying portion according to magnification.

18. The electronically surveying apparatus according to claim 3, wherein said arithmetic processing portion calculates an allowable
20 range with respect to said model of the expected arrangement at completion of the object based on said design data, and displays the allowable range on said displaying portion by overlapping the allowable range with said model of the expected arrangement at completion of the object.